Beam Power Tube

NOVAR TYPE

For TV Horizontal-Deflection Amplifier Applications

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	1.2	amp
Peak-heater-cathode voltage:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200[a] max.	volts

Direct Interelectrode Capacitances (Approx.):[b]

Grid No.1 to plate	0.2	pf
Grid No.1 to cathode, grid No.3, grid No.2, and heater	15.0	pf
Plate to cathode, grid No.3, grid No.2, and heater	6.0	pf

Characteristics, Class A_1 Amplifier:

	Triode Connection	*Pentode Connection*		
Plate Voltage	150	60	250	volts
Grid No.3	–	*Connected to cathode at socket*		
Grid-No.2 Voltage	150	150	150	volts
Grid-No.1 Voltage	-22.5	0	-22.5	volts
Mu-factor, Grid No.2 to Grid No.1	4.4	–	–	
Plate Resistance (Approx.)	–	–	15000	ohms
Transconductance	–	–	7100	μmhos
Plate Current	–	390[c]	70	ma
Grid-No.2 Current	–	32[c]	2.1	ma
Grid-No.2 Voltage (Approx.) for plate current = 1 ma.	–	–	-42	volts

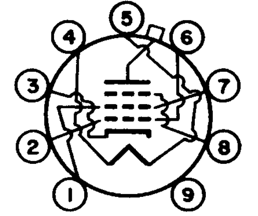
Mechanical:

Operating Position	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length	3.550"
Seated Length	3.040" ± 0.130"
Diameter	1.438" to 1.562"
Bulb	T12
Cap	Skirted Miniature (JEDEC No.C1-2 or C1-3)
Socket	Cinch Mfg. Co. No.149 19 00 033, Industrial Electronic Hardware Corp. No.SO-0968-SL1, or equivalent

6JB6

Base. . . . . Large-Button Novar 9-Pin (JEDEC No.E9-76)
Basing Designation for BOTTOM VIEW. 9QL

Pin 1 - Grid No.2
Pin 2 - Grid No.1
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater



Pin 6 - Grid No.1
Pin 7 - Grid No.2
Pin 8 - Grid No.3
Pin 9 - Do Not Use
Cap - Plate

HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[d]

DC PLATE-SUPPLY VOLTAGE (Boost + DC Power Supply)	770 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE[e]. . .	6500 max.	volts
PEAK NEGATIVE-PULSE PLATE VOLTAGE . . .	1500 max.	volts
DC GRID-No.3 VOLTAGE (See *Operating Considerations*). . . .	70 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE. . .	220 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE . .	-55 max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 VOLTAGE .	330 max.	volts
CATHODE CURRENT:		
Peak.	550 max.	ma
Average	175 max.	ma
GRID-No.2 INPUT	3.5 max.	watts
PLATE DISSIPATION[f].	17.5 max.	watts
BULB TEMPERATURE (At hottest point on bulb surface). .	240 max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance: For grid-resistor bias operation[f] . .	1 max.	megohm

[a] The dc component must not exceed 100 volts.

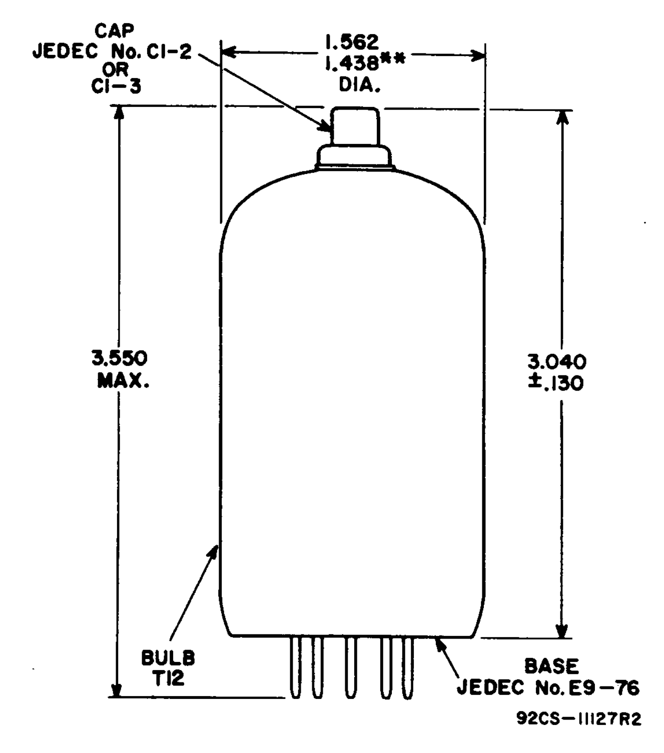
[b] Without external shield.

[c] This value can be measured by a method involving a recurrent wave form such that the plate dissipation, grid-No.2 input, and cathode current will be kept within ratings in order to prevent damage to the tube.

[d] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

[e] This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

[f] It is essential that the plate dissipation be limited in the event of loss of grid signal. For this purpose, some protective means such as a cathode resistor of suitable value should be employed.



ALL DIMENSIONS IN INCHES

** APPLIES IN ZONE STARTING 0.375" FROM BASE SEAT.

OPERATING CONSIDERATIONS

In *horizontal-deflection amplifier service* a positive voltage may be applied to grid No.3 to minimize "snivets" interference in both vhf and uhf television receivers. A typical value for this voltage is 30 volts.

AVERAGE CHARACTERISTICS

